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MEMORANDUM

Date: Aug 4, 1997

To: Bob Pine, Jean Elder, USFWS; Carol Howe, Montgomery Watson, CalFed consultant, Rick Woodard, CalFed Water Quality Program Leader

From: Tom Maurer, USFWS

Subject: Comments - WQ Impacts Technical Report and Affected Environment Document, dated July 2 and July 7, 1997 respectively

WATER QUALITY IMPACTS TECHNICAL REPORT

General nature of the document - There seems to be a general negative feel to the document that requires a philosophical adjustment. This comes from statements that say although there will be improvement in water quality in a local watershed, overall, there will not be a regional improvement or others that state that improvements in water quality will be negated by increased pollution due to population growth. This appears to piecemeal each action and not consider the effects as additive. To be more positive one must consider that each small improvement upstream improves the water quality downstream and that all improvements added up in a watershed/region equals a significant improvement. Yes, start with the large, big bang for the buck projects throughout the region but also begin upstream with the smaller projects and work down. As downstream stackholders see the water quality improve they will have more incentive to do similar work. Is the assumption that future growth will be as great a polluter as past/current growth? Page 3-46 seems to state that in a no action alternative a 60% increase in population relates to a direct 60% increase in pollution. I'd like to think that future growth will use new and improved pollution control measures to a greater extent than currently being done and that it will not be a direct 60% increase in pollution. I think the overall nature of the document can be improved with inclusion of a more positive approach/discussion.

Salinity impacts - The discussions of impacts on salinity due to conversion of agriculture to wetlands/open water needs clarification and confirmation with models. Discussions in levee system integrity (salt concentrations decrease) seem to conflict with similar discussions in ecosystem restoration sections (salt concentrations increase). Some of the confusion is related to using concentration in one discussion of impacts while using loads (content) in the other. With regard to San Joaquin Valley salt loads the general concept that salt in is equal to salt out (not a net emitter) for agriculture is not true. Salinity in the valley, particularly on the westside, is much more complex. There is a large salt load in the soils and groundwater that contributes to the salt load in drainwater at various levels depending on irrigation rate, depth of groundwater, depth of drains, upslope drainage, location, etc. USGS circulars on groundwater in the valley discuss this in great detail. Some salt is naturally elevated in soils and groundwater due to the semi-arid nature of the climate and some salt is from historic irrigation accumulations that were not drained until recently. Drainwater re-use may compound the issue also.

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Selenium in the Delta - The potential affects of selenium transport in the Delta with respect to barriers and flow changes need to be discussed. Currently most of the San Joaquin goes to the pumps thus the selenium that isn't already "lost" in the system does also. Altering the flow will increase the residence time in the Delta and increase selenium loading to the western Delta where industrial sources of selenium are located. But we hopefully can assume that the drainwater program will be successful, with help from CalFed, so less selenium will be going to the Delta.

Organics - Besides the loss of ag land nutrient loads, restored wetlands remove additional nutrients from the water thus improving the water quality even more than stated in the discussion. Under levee integrity the organic section uses the term NOM (natural organic matter). This is not used elsewhere in the document and is confusing.

Pesticides - According to the document it appears that conversion of ag lands to wetlands or ag lands lost to setback levees does not improve water quality overall. Agricultural lands near the rivers and channels can be the source of a greater amount of pesticides into the water than other lands farther away. Thus conversion of those ag lands may eliminate a greater amount of pesticides than average. Plus the restored wetlands can act as treatment for the rivers and channels by acting as buffers and by removal of pesticides thus decreasing pesticide concentrations in the main stem waters.

The levee integrity section (3-52) says no pesticides were detected in studies but other pesticide discussions discuss several pesticides being detected at significant concentrations.

Storage footprints - Each site should be evaluated for potential impacts from abandoned mines. New reservoirs could become methylation sites for mercury causing local problems and possibly increase methyl mercury movement downstream. The CA Division of Mines has produced maps of the Cache Creek watershed with mines sites located throughout. Similar maps could also be produced for other watersheds.

Tables - I would find it useful to expand the Programmatic Action tables to include further breakdown of potentially significant impacts by adding Direct Short-Term Impacts, Direct Long-Term Impacts, and Indirect Impacts.

Water Quality Program Impacts - Are there no estimates for metal loadings from agriculture in the San Joaquin and Delta similar to data for Sacramento River?

Water Quality Program Impacts Actions 4&5 - SJVDIP actions must be implemented first and continue before a "valley-wide drain" can be seriously considered in the future.

Water Use Efficiency Impacts - Page 3-56 seems to say that water use efficiency will have no impact on water quality good or bad. During the drought in the early 1990s selenium loads decreased in the San Joaquin River as seen in RWQCB reports. This was attributed to improved water management and removal of marginal land from production. Selenium loads on a pound per acre basis decreased significantly. Once the drought ended the marginal land was put back into production and the selenium load in the river returned to the high levels of past years. But

selenium loads in pounds per acre, although it increased, remained below the levels before water management was improved. This shows clearly that several techniques together (land retirement and water management) can reduce selenium loads to the river. Again piecemeal assessment tends to ignore significant improvements to water quality when compared to the whole picture.

AFFECTED ENVIRONMENT DOCUMENT

Selenium/mercury interactions in the western Delta should be discussed. I can provide some information on this later.

USGS has seen estrogenic effects in fish from the San Joaquin River that correlates to total dissolved pesticide concentrations. I can provide some information on this later.

EPA selenium standard of 2.0 ug/l for water to be used for wetlands in San Joaquin Grasslands area.